

Our Public Lands

Summer 1966



Bureau of Land Management
1946-1966

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Cover picture: Floral beauty in the California desert.

OUR PUBLIC LANDS

Summer 1966, Vol. 15, No. 5



DEPARTMENT OF THE INTERIOR

Stewart L. Udall, Secretary

BUREAU OF LAND MANAGEMENT

John Crow, Acting Director

Created in 1849, the Department of the Interior—a Department of Conservation—is concerned with the management, conservation, and development of the Nation's water, wildlife, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and Territorial affairs.

As the Nation's principal conservation agency, the Department works to assure that nonrenewable resources conserved for the future, and the renewable resources make their full contribution to the progress, prosperity, and security of the United States—now and in the future.

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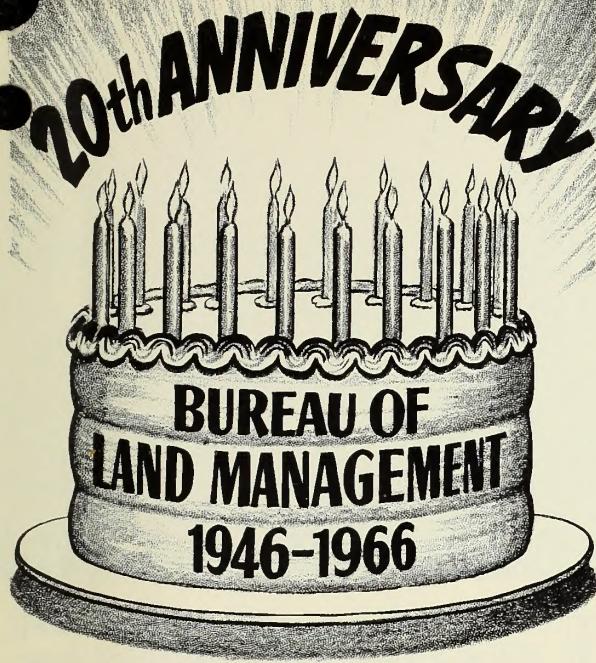
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Franklin Bradford, Editor.

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BLM-20 YEARS YOUNG

By Jerry A. O'Callaghan, *Chief
Office of Legislation and Cooperative Relations*

People who work for the Bureau of Land Management can make two contradictory boasts. They serve one of the oldest bureaus in the Federal Government and one of the younger ones. This felicitous circumstance came about because Congress approved on July 16, 1946, the joining of the General Land Office founded in 1812 and the Grazing Service founded in 1934.

In submitting his Reorganization Plan No. 3 to Congress in May 1946, President Truman pointed out that the General Land Office and the Grazing Service shared the responsibility for the major part of the multiple use public lands administered by the Secretary of the Interior. These lands, he noted, were comparable in character and use. In some functions these two agencies drew from the same professions and the same techniques. Other functions were divided between the two agencies so that both were engaged in managing various aspects of the same public lands. These lands were in general the residual public lands covering approximately 176 million acres in the far western States and 312 million acres of public land in Alaska.

In 1962 the Bureau of Land Management commemorated the 150th anniversary of the General Land Office. It had been set up in the Department of Treasury in 1812 to handle public land matters. It was transferred

to the newly formed Department of the Interior in 1849. The General Land Office made public land available for settlement, for railroad construction, for mineral development, and handled the paperwork for the selection of State grants. It did little to manage lands as we know land management today.

In 1934 when little of the remaining unsettled lands were suitable for privately owned farms, Congress authorized their public administration under the Taylor Act. The Grazing Service was created to manage them under that act.

The appropriation for fiscal year 1947 was \$5,109,126. The appropriation for fiscal year 1966 approximates \$66,665,223. Today the Bureau employs 3,758 persons.

These figures reflect intensification of public land management. In 1946 the public lands were looked upon largely as residual lands whose chief value lay in grazing and minerals. BLM's 20 years coincide with the most momentous 20 years in history, at least as the European oriented people reckon history. In the United States one of the chief characteristics of these years has been the continued and accelerated migration of American people to the West. Inevitably, the impact on the public lands has brought forth new values. The historical, recreation, and scientific potentials have been recognized. Congress has taken a step to cure their indeterminate legal status by authorizing their classification and specific identification of those lands which should be retained in public ownership.

These are exciting days in public land management. The BLM is right in the middle of this excitement. The future cannot, of course, be predicted with exactitude. The Public Land Law Review Commission has embarked on an historic comprehensive study of all public lands. The increasing population and affluence of the American people living on a fixed land base, including a fixed public land base, strongly suggest that Americans will require more and better professional competence than ever before in their land managers.

As exciting and interesting as the first 20 years have been, they are the anteroom to an even more exciting and historic future.

BLM Directors

Fred W. Johnson, July 16, 1946.

Marion Clawson, March 4, 1948.

Ed Woozley, May 1, 1953.

Karl S. Landstrom, February 1, 1961.

Charles H. Stoddard, June 1, 1963.

Looking south along the coast from a point near Spanish Flat.



“Unknown” Coast

California's King Range country abounds in scenic grandeur and natural resources

By Alan L. Bellon
Ukiah BLM Forester

FAR OFF THE BEATEN path in northwestern California is a little known area of great scenic beauty. Abounding in natural resources—timber, fish, game and scenic grandeur—is the King Range, an area that merits multiple use management.

Until recently, only a few people had penetrated its dense brush fields and climbed its clifflike slopes. It was well named when it was called California's Unknown Coast.

Going north from San Francisco, California's Highway 1 follows a rugged shoreline. Two hundred miles north of San Francisco the land begins to “stand on end” and Highway 1 turns inland to join U.S. 101, the Redwood Highway. A rather primitive dirt and gravel road continues near the coast, sometimes within sight of the ocean, more often swinging inland to follow the high ridges.

Past Point No Pass, even the narrow fringe of beach disappears. From here to the Mattole River, 20 miles north as the bird flies, is King Range Country. Only Shelter Cove, where grassy slopes descend to the ocean, is not a land of cliffs and forest. And, at Shelter Cove, a multimillion dollar country home development adds a domestic touch to the wilderness.

The King Range is an area of contrast. On the north is the fertile Mattole River Valley, devoted to cattle and sheep production. Ascending the King Range, the grassy slopes give way to Douglas-fir and brush. At the summit, the character of the land changes abruptly. Cliffs that tower more than a thousand feet descend toward the ocean, only three miles away.

Recognizing the area's potential, the Bureau of L.



A decaying tree, possibly felled by lightning, provides foreground for this view of King's Peak.

Management made an inventory of the land and its resources. Range managers, foresters, wildlife specialists, mining engineers, all the various technicians, examined the area. Foresters found nearly 20,000 acres of timber; range managers found very little grazing land; wildlife specialists found an abundance of game—black-tailed deer, bear and numerous smaller game species: Salmon (steelhead) and rainbow trout. It was quite evident that King Range was suited for both outdoor recreation and as a source of more material riches.

What is being accomplished by the development and management of the King Range? Not many miles away, the Redwood Highway carries an ever-increasing crowd of visitors. The King Range provides a welcome relief from the high-speed freeways. It helps to relieve the pressure on those crowded facilities along the highway. The expansion and continued growth of such outdoor recreation facilities are vital to the economy of the area, and to the entire country and its people blessed with more and more leisure time. Eventually, management of the timber stands will produce perhaps 5 million board feet of lumber a year. Trails and roads will open up thousands of acres of land to hunters and fishermen. An area of 12,000 acres called the "Pacific Slope" has been set aside for preservation of its wilderness character, while the remainder has been zoned for multiple-use management.

Top right, King Range will meet the recreational needs of the public as roads and campsites are built.

Bottom right, the grassy slopes of Shelter Grove form the only "break" in many miles of forests and cliffs.

Campgrounds Planned

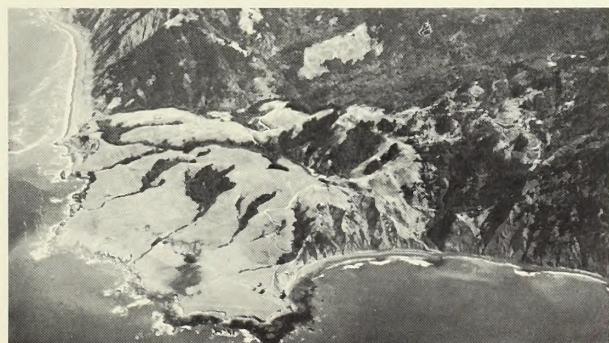
Eight recreation areas were designated for camp-ground development. On them, timber cutting will be limited to trees in danger of falling. The same policy will apply to buffer zones around the campgrounds.

The first try at laying out a road system failed because surveyors couldn't work through the rough terrain. After months of study, a routing was found for the main road. It looked nothing like the original plan, but it was the best, if not the only, alternative.

Trail builders had similar problems, but the Kings Crest Trail now follows the main ridge for miles, with spectacular views down to the beach and to the high mountains many miles inland.

The campgrounds presented a different problem—what to name them. The local names, Bear Creek, Buck Creek, Slide Peak, and others were common and lacked distinction. Local Indian names were suggested. A call to the Anthropology Department of the University of California brought information that a word list of the Mattole Indian language had been compiled many years ago, and a book published. The book was something less than a best seller, but a copy was found in the California State Library. Now the names Wailaki, Nadelos, and Tolkan commemorate a vanished race.

King Range has been classified as suitable for management of its valuable resources, and the country is assured those resources will continue to provide wealth and pleasure for a burgeoning population.



STILLING THE SHIFTING SANDS

European beachgrass helping restore vegetation to Oregon dunes

By Robert E. Metzger
BLM Forester, Eugene, Oregon

Southwest winds laced with rain and sand lash the Oregon dunes. Beyond, waves of the Pacific beat relentlessly against the shore. Gray clouds scud across this miniature mountain range of sand, skimming the whitened skeletons that once were living trees.

Geologists estimate that these dunes were born 500,000 years ago. For ages there was only a low foredune near the beach. Then in the late 1800's fires swept the dense Sitka spruce forest that lined the shore. Sand and wind were quick to attack. They pressed inland, building a high dune with some ridges of sand 200 feet high.

A small Indian village once nestled on the south bank



Planting beachgrass on BLM's Siuslaw Dunes project.

Planting contractor
Wilbur Ternyik examines root
net on an established
European beachgrass plant.



of the Siuslaw River outlet, sheltered by spruce and hemlock. Now a mountain of sand is there. Only a scattering of obsidian chips and arrowheads on native soil near tidemark remain to tell the story.

Dunes Still Move

Congress is considering the stretch of dunes from the rock cliffs of Sea Lion Point, north of Florence, to Coos Bay, 50 miles to the south, for a national seashore. In some places the dunes are 2 miles wide and growing. They edge inward on the southwest squalls of winter and northwest winds of summer, snuffing out forests in their path.

Sand blows into the outlet of the Siuslaw River by the ton, often stopping the fishing fleet that puts to sea from the port of Florence. To the south, dunes are crowding into Cleawox Lake at a rate of 20 feet a year. They not only are smothering this jewellike lakelet, but threaten eventually to flood out the popular State park on its shores.

Individual Efforts

Most of the dunes strip is public land managed by the Bureau of Land Management, the Forest Service, State of Oregon, or the counties. Let's hike across the small but crucial 1,292-acre piece of public domain land under care of BLM. It literally controls the outlet of the Siuslaw River. BLM sought ways to stabilize this sand back in 1949. Soon BLM, the Forest Service, Soil Conservation Service, State of Oregon, counties,

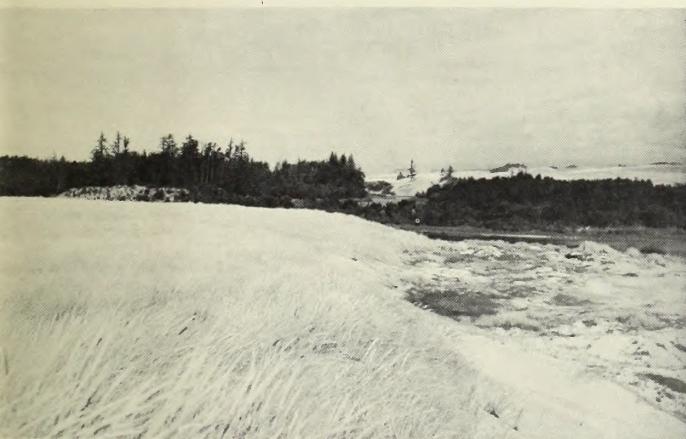
and local communities were working in a cooperative effort to still the sands.

On a high dune to the west a man stabs rhythmically into the sand with a narrow shovel. He stoops, picks up a strawlike sheaf and methodically inserts individual sprigs symmetrically into the sand. Each sprig is a culm of European beachgrass. It contains minute root buds that will swell to life in the spring and thrust green blades up through the sand. The culms come from a unique nursery right on the dunes. Planting contractor Wilbur Ternyik operates it under a BLM permit, culturing the new shoots from the previous year's plantings. Beachgrass from this nursery has stabilized sand from the Puget Sound to the southern California coast.

From Normandy Coast

The dunes planting technique was developed on the Normandy Coast of France a century ago. European beachgrass, planted in clumps of three, 18 inches apart and in the wetness of winter, immediately starts to anchor sand. With ordinary ammonium sulphate used as fertilizer, the wispy straw bursts into lush green and pushes roots deep into the sand. Within a year it will grow into heavy clumps with sand-gripping root nets up to 20 feet long.

In winter Scotch broom and shore pine are interplanted in a checkerboard pattern 8 feet apart within the beachgrass area. Another import from the Old World, Scotch broom is a soil-building legume which gives nitrogen to its shore pine neighbors. As an



A well-established stand of beachgrass on the Oregon dunes.



An old photo showing crest of the dune as it encroaches on the Siuslaw National Forest.

extra bonus, this shrub blooms in brilliant yellows during the spring.

If all goes well, there will be a dense, head high stand of shore pine in 5 to 10 years. Soon duff will be forming on top of the sand. As the grass is overtapped and disappears, native huckleberry comes in and a new environment takes form. Eventually it will build soil, and some day a real forest will grow again.

Wildlife on the Dunes

BLM and the Oregon State Game Commission seeded about 300 acres of wetland flats to barley, fescues, rye grasses, and clover. Barley draws pintails and mallards. Canada geese have been found in numbers up to 500, cruising like combines through the barley. Later in the season, majestic whistling swans drop in to winter. The planting contractor saw about 1,500 of them last year; 10 years ago he counted 7.

These grasses also have attracted large numbers of blacktail deer. Ringneck pheasants planted by the Game Commission also abound, but it takes a good dog to flush them. Pods of the Scotch broom carry a seed that ringnecks thrive on.

Aggressive Coexistence

Let's cut over to the road and back to the rig. The road wasn't always here; only last year the sands had become sufficiently stabilized to allow its construction. It's a BLM road, two lanes, asphalt paved. It runs 5 miles, from U.S. Highway 101 all the way out to the south jetty of the mouth of the Siuslaw River. It opens up 3 miles of good public beach. BLM provides parking lots, picnic tables, and restrooms. Traffic counts for the first summer show 50,000 people came to comb the driftwood beaches, watch the surf, fish from the jetty, and lower traps for the savory Dungeness crab.

Stabilization of the dunes near the mouth of the Siuslaw River not only keeps the channel open for boats. It also helps nature start building a friendly community of plants and wildlife. On a bright summer day a white gull wheels easily in the blue sky. Beneath it the hills of sand are almost still. As always, the Pacific swells and crashes on the shore. A pale green meadow of beachgrass bends gracefully under the breezes. Beyond the meadow a dark carpet of pine, splashed broadly with the golden yellows of Scotch broom, stretches out toward the foaming surf.

Skeleton of Sitka spruce stands as grim evidence of what happens to a forest in the path of shifting sands.





Rides over beautiful white sand dunes 100 feet high thrill the participants and test their machines.

JEEPSTER JAMBOREE

Californians have fun on wheels in sandy dunes and rocky mesas

California's burgeoning population is forcing the outdoor sports enthusiasts to venture farther and farther from the crowded city and high-speed freeways. So, in ever-increasing numbers, the recreationists are discovering the varied opportunities to pursue their favorite sports on lands of the public domain.

This is particularly true of the more mobile sports—bicycling, motorcycling, trail biking or jeeping. Each type of wheeling has its devotees with special preferences in type of terrain.

Central San Bernardino County has become a favorite rendezvous for westerners who enjoy testing vehicles equipped with 4-wheel drive. Each fall for the past 5 years 500 such vehicles have assembled for the annual Jeepsters' Jamboree. With some 1,500 persons in attendance, the Jamboree is well organized and offers activities that test the skill of drivers and the power and endurance of engines.

Obstacle racing, hill climbing, drag racing and a 50-mile cross-country run over terrain that can be negotiated only by a 4-wheel drive vehicle, keep the participants busy throughout a long weekend. Rock-strewn mesas add interest for spectators as well as participants.

This type of recreation is becoming so popular that manufacturers now supply special tires to provide maximum traction in different types of soils, including soft, dry sand.

Drivers secure special permits for use of public land. They are almost fanatical in their determination to leave the land as clean as they found it. Following a gathering sponsored by the Hemet Jeep Club, personnel from the Riverside BLM Land Office were unable to find trash of any kind.

By Gordon W. Flint, Public Service Chief
Riverside District and Land Office



BIG ROAMIN' ROOM

Picnickers at the seashore gather around a campfire at sunset.

By Ralph M. Conrad
BLM Recreation Resource Specialist

The lonesome cowboy is not so lonesome, but there's still room to roam—and plenty of it—on the 460 million acres of public domain in the 11 Western States and Alaska.

This rugged and vast area, comprising a chunk of real estate more than twice the size of France, is about the biggest roaming room on the continent, and its full recreation value is virtually untapped.

It's the very heart of the Big Sky, the motherlode of the prospector and his burro, the last domain of the lonesome cowpoke, and the home of the timberjack. It's the "leavin's" of the great western emigration and the establishment of the national parks and forests. It's the public domain—yours and mine—broad, breathtaking, beautiful, and useful.

Something for Everyone

Here there's something for everyone—clam-digging on the Oregon-California coast, trout fishing in Montana's beautiful Madison River, photography in Utah's spectacular Land of the Rainbow, and just plain campin', picnickin' and loafin' under the lazy western skies.



Recreation means many things to many people, but to millions of Americans it means getting outdoors where there's room to roam.



BLM's room to room is dotted with many places of interest, such as these cliff dwellings once used by Indians.

You can roar up sand dunes in southern California, soar over Nevada's ancient lakebeds or slide down Colorado's snow-covered slopes. In this versatile land you can find the true meaning of recreation; the solitude to restore and refresh the mind, or the physical challenge to restore and refresh the body. Your imagination and a few common sense rules are the only limitations on what you can do and see.

There are no frills attached to a recreation experience lands looked after by BLM. Of course we have family camping and picnicking units with tables, fireplaces, water, and sanitary facilities, but we're primarily foresters and range managers and our ideas of comfort may vary from yours. You may have to rough it a bit, but the privacy is great!

It's not fancy, nor is it expensive. Your \$7 Federal Recreation Entrance Permit will admit you to 44 of BLM's more outstanding recreation sites where you and your family can vacation. Ninety-two other BLM recreation sites with limited camping and picnicking facilities are free. If you prefer, you can pitch camp in isolation with only coyotes and jackrabbits for company. But remember, this land is public land, so always leave a clean campsite for those who come after you.

Historically, BLM has been charged with land disposal programs and management of the timber, range and related consumer resources on the public lands. Not until September 1964, when Congress passed the Classification and Multiple Use Act, was the Bureau recognized as a potential outdoor recreation management agency, too.

136 Sites Developed

Because of this recent start, we have only about 1,000 family units in 136 developed recreation sites on the public lands—not nearly enough to satisfy the more

than 30 million visits we hosted in 1965. We have inventoried over 1,100 locations on the public lands which have potential for future development as recreation sites. They range from hunter camps in Idaho and Wyoming through pristine mountain meadows, rushing Alaskan streams, and the shores of clearwater lakes and reservoirs in Utah, to dry campsites in the fascinating deserts of Arizona and New Mexico.

The American Indian knew this land well and left his mark in many interesting ways. There are many natural wonders and scenic views you'll want to ponder on, and outstanding stories to tell. There are rare and unique remnants of plant and animal species, ghost towns, geological phenomena, and legends of the pony express, Lewis and Clark, the Old Spanish Trail. We would also like to show you our techniques in resource management, which make multiple use a reality.

The Bureau has to evaluate and budget funds for the development of recreation opportunities as zealously as a homeowner planning to add that long-wanted recreation room. Where your plans for expansion are often delayed by some unexpected financial emergency, the Bureau has its counterparts in emergencies such as forest fires, floods, or international conflict which may divert funds from recreation developments in any time period.

We are currently in the planning stages of development of your roaming room. Many plans—and a few dreams—are on the drawing boards, and the decor, which must be in harmony with the natural setting, is being selected. Ideas are being weighed and sifted in order to provide you with a quality outdoor recreation experience in a quality environment.

Campers who prefer "primitive" surroundings find them readily on the public domain.



Gone With the Water

By **George L. Tureott, Chief,
Soil and Watershed Staff**

**Curtis V. McVee,
Range Conservationist**

**Kenneth F. Hansen,
Watershed Management Specialist**

The mid-1930's saw the start of a second great conservation era in the United States. It is fitting in this 20th anniversary year of the Bureau of Land Management that we review current conditions on BLM-managed watersheds resulting from administration under two basic statutes. It is especially appropriate, since another great era is gaining momentum under President Johnson's call for a "new conservation."

The Soil Conservation and Domestic Allotment Act of 1935 declared a policy of Congress to provide permanently for the control and prevention of soil erosion and thereby to preserve natural resources. The Taylor Grazing Act, enacted in 1934, calls for prevention of soil deterioration. Yet, a recent erosion hazard classification of Bureau-administered land does not present a pretty picture.

In its present condition, public land administered by BLM is not capable of making full contribution to society. Over 6 million acres are described as "frail watershed." Badly eroded, barren, and abused initially by man and secondly by forces of wind and water, they are a source of pollution to the Nation's water resources. Another 44 million acres continue to deteriorate toward the "frail land" category. Another 125 million acres are eroding at moderate rates, depending upon the intensity of rainstorms or snowmelt.

Excessive Sediments

Unfortunately, much water flowing from BLM managed watersheds contains excessive sediments, salinity and silt. Recent analysis indicates a startling picture of annual decline in condition of these watersheds.

Annual sediment from the 40 percent of the upper Colorado Basin administered by BLM would cover the 69-square-mile District of Columbia to a depth of 19 inches. This sediment, of course, isn't covering the District of Columbia—it's deposited in Lake Powell, formed by Glen Canyon Dam.

The chemical content of water flowing from BLM lands in four of the five major western hydrologic regions approaches or exceeds the potable water tolerances for human consumption. Expensive treatment for human consumption usually is necessary when this point is reached. The answer lies in keeping the soil in place to prevent soluble solids from dissolving when soil erodes.

If the foregoing review is stark, then we should face it with realism and candor. There is little sense in blaming man for the forces he set in motion during the last 100 years. America's development of the Far West has been advanced largely by the use of the region's natural resources, especially soil, water

timber, and forage. But this progress created depletion and deterioration of the vegetation. Once vegetation started to decline, the balance among soil, vegetation, and moisture was upset and soil erosion was speeded.

Not Easily Halted

Experience shows that soil misuse and soil erosion are not easily halted, once started. One must appreciate the dynamics of watershed to fully understand this.

A watershed is the end product of an age-old interaction of many factors. Basic ingredients from the remote past were climate, parent rock, and sunlight. Physical and chemical weathering and biotic activity assisted in soil development and deepening. The incessant addition of rainfall and snowmelt gradually created an orderly system for disposing of water through the soil and down the watercourse. Over eons of time, watersheds reached a state of balance or equilibrium among vegetation, soil, and moisture.

Out west when even one inch of topsoil is lost, it may take generations to replace it. Surely this means we are wasting our natural wealth the moment soil is eroded and "gone with the water."

BLM has long carried out watershed protection programs on public lands. Classically successful examples have been developed, even though the program has been inadequate to cope with the total problem. Notable are the reduced soil losses and flood control

in the Willow Creek project in Valley County, Mont.; the Rio Puerco frail watershed rehabilitation program in New Mexico; the soil stabilization and range development programs near Vale, Oreg., and Burley, Idaho; rehabilitation of the Humboldt River watershed near Elko, Nev., subsequent to a disastrous 300,000-acre wildfire; the Picture Gallery Gulch chaparral conversion work for water yield and wildlife habitat near Sonora, Calif.; and the erosion and water control works in Centennial Valley, Ariz.

In the earlier years the Bureau's effort generally was oriented toward range improvement. In recent years a range development and conservation program has evolved. Gradually through this process proper use of forage, land treatment, and structural programs have been related to erosion and water control on a site-by-site basis. Now the Bureau requires formal management of small watersheds as such.

Management Costs

We should not be too critical of our progress and previous viewpoints. For even today the grazing and soil and watershed management of the Bureau is administered only by about 800 field employees associated directly with these programs. This provides a ratio of about 340 square miles per field employee. Even more telling is the relationship of management investment per acre. Between 1936 and 1941, an average of 26 mills or about one-fourth cent per acre per year

Grasslands properly grazed will heal erosion caused by overgrazing.





Waterspreading by means of contour dikes and ditches helps to slow runoff and give time for restoring vegetation.



This small ditch may be the birth of a mighty canyon unless steps are taken to control the water runoff.



A big gully eats its way into an otherwise smooth terrain.

was expended for grazing and soil and watershed management. It rose to approximately 1 cent per acre per year for the postwar years, 1946 and 1952. Presently, our management cost represents approximately 11 cents per acre per year for rangeland watershed management. Comparisons indicate significant awareness of management needs, but a bag of peanuts costs more than our present expenditure per acre.

It also is useful to relate our physical accomplishments over an extended period to a recent inventory of conservation needs. They are significant, but far from enough.

"Land and water resources are inseparable, and therefore, watershed improvement programs are a basic and extremely important part of the Nation's overall water resources development program." This statement by the Senate Select Committee on National Water Resources is eminently sound. (1963.)

The BLM's watershed management in the future, no doubt, will be carried out more intensively in accordance with this concept, based on a combination of three approaches:

First, harvest-type uses, such as domestic livestock grazing and timber cutting, will be more refined and locally adapted to insure that vegetation, soil, and moisture requirements are not out of balance with respect to erosion hazard. Effective watershed management on most of our western ranges continues to be handicapped by lack of specific local information about protective plant and soil requirements and about acceptable limits of grazing use.

Stabilizing the Soil

A second approach involves treatment or cultural practices to stabilize the soil or increase water infiltration and waterholding capacity of the soil. Revegetation of denuded sites to perennial grasses and desirable wildlife shrubs is of prime importance. Contour furrowing, terracing, deep tillage, soil ripping, brush control and small check dams lead toward on-site infiltration of moisture to restore vegetation and hydrologic balance.

A third category of measures will be undertaken primarily for the management of uncontrolled waterflow originating on and passing through lands administered by BLM. Such measures include detention and retention dams, waterspreading projects and similar steps to control erosion in areas where gullying and deterioration of the soil-moisture balance are critical.

Technology and program thrust will increasingly change in the next several years. So far, the incentive

for conservation has been more for production control than hydrologic control. We must learn to manage rangeland watersheds as such, for it has long been known that there is an intimate relationship between land and water—and that the method of managing land affects runoff and quality of waterflow.

Initial recognition of the extreme erosive vulnerability of arid and semiarid lands in the western States was expressed by Clarence L. Forsling, formerly director of the Intermountain Forest and Range Experiment Station, Assistant Chief of the U.S. Forest Service in charge of research, and also a former director of the Grazing Service. His article, "Raveling Watersheds," published in the February 1963 issue of "American Forests," defined the problem. The concept was further pursued in an initial study and identification of "Frail Land" areas throughout the western States by Mr. Forsling and Cyril L. Jensen of BLM. Congressional interest was developed through the efforts and leadership of Senator Metcalf of Montana.

WATER, SEDIMENTATION AND SALINITY YIELD ON PUBLIC LANDS

Hydrologic regions	Public lands, acres	Average annual precipitation on public lands (million acre ft.)	Cumulative annual runoff on public lands (million acre ft.)	Annual yield sediment on public lands (million cu. yds.)	Annual yield soluble solids on public lands (p.p.m.)	Annual yield soluble solids on public lands (million tons)
Upper Colorado-----	26, 866, 000	22. 4	2. 24	102. 0	1, 518	4. 54
Great Basin-----	47, 178, 000	31. 4	3. 62	130. 0	707	3. 51
Missouri-----	21, 736, 000	19. 9	2. 17	41. 0	562	1. 66
Rio Grande-----	11, 291, 000	10. 3	. 94	39. 9	803	1. 03
Columbia North						
Pacific-----	28, 106, 000	32. 8	5. 38	31. 8	265	1. 86

CONSERVATION ACCOMPLISHMENTS AND NEEDS ON LANDS UNDER JURISDICTION OF THE BUREAU OF LAND MANAGEMENT

Practice	Units	Accomplishments 1935-65	Inventory of total needs ¹	Planned 1966	Planned 1967	Remaining work
Water control structures.	cubic yards.	21, 501, 945	242, 602, 293	2, 274, 600	2, 270, 000	216, 555, 748
Other conservation practices. ²	acres-----	2, 848, 285	19, 125, 872	82, 900	82, 800	16, 111, 887
Protective fencing	miles-----	49, 453	121, 897	2, 461	2, 485	67, 498
Undesirable plant control.	acres-----	1, 296, 288	16, 498, 780	299, 200	293, 000	14, 610, 292
Revegetation-----	acres-----	2, 327, 836	14, 797, 957	231, 910	187, 000	12, 051, 211
Water developments.	number--	36, 448	85, 215	1, 050	950	46, 767

¹ Estimate of conservation needs inventory was completed by the Bureau during 1964. This reflects the total needs of the public lands.

² Includes contour trenches, pitting, furrowing, waterspreading, dune control, and deep tillage.

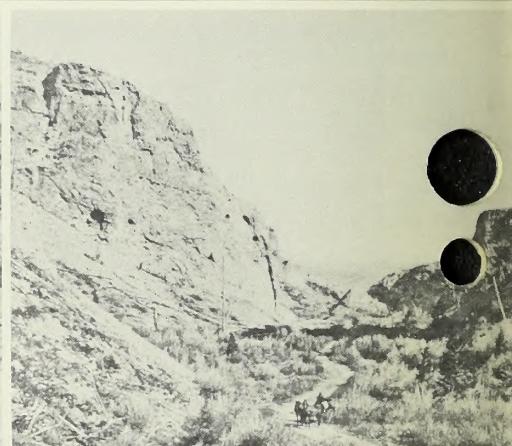
*Once choked with heavy traffic
of gold mines, Maiden Canyon is now
quiet and beautiful*

RECOVERY AND RECREATION

By Richard D. Burr
*Division of Economics and Basin Studies
Denver BLM Service Center*



Maiden, Mont., around 1892. A roistering mining town, it lay in a hot and barren canyon. (U.S. Geological Survey photo.)



In 1892 the photographer caught the desolate and wasteful scene of Maiden Canyon near its mouth. (U.S. Geological Survey photo.)

The road winds up a canyon, through a ghost town, over a ridge, then drops gently past the ruins of rock-crushing mills. You are in the Judith Mountains of Montana.

In the 1890's the roads were choked with the heavy traffic of the gold mines. The metallic clatter of wagon wheels and the shouts of teamsters echoed and re-echoed from barren rocky slopes; the summer sun reflected hotly from canyon walls and sifted through stifling clouds of dust.

Now the canyons are hushed. The shallow soils and rock of the mountains are hidden by the green of the forest; Douglas-fir and lodgepole pine cover the cool slopes. The Bureau of Land Management, im-

pressed by their beauty, has set one of the canyons apart for a recreation area—Maiden Canyon.

Rich in Lore

Maiden Canyon is rich in lore, as well as ore, but no chapter in its history is more dramatic than the forest recovery of a vast area stripped of timbers needed for fuelwood and mining operations before the turn of the century. In the 1890's a withering memorial to the Indian Wars, Fort Maginnis, still stood to the east of the Judiths, and 3,000 hardrock miners roared and rocked in the town of Maiden on the opposite slope.

Maiden was far from cool and tranquil. To escape

last and heat, a geologist climbed the hills around 1890 to photograph the town and the valley of Warm Spring Creek. The granite slopes on either side of the creek were denuded of timber and only sparsely covered by scattered trees. There was no forest.

Maiden's wealth and population were based primarily on the nearby Spotted Horse Mine, discovered in 1880, which yielded over \$7 million in gold before it played out. By modern standards its wealth would be five to seven times as great. Two men staked out the mine but readily shared its wealth when a third partner offered to "buy-in" for 20 gallons of whiskey and—of minor consideration—some lumber. The old mine lies on a good gravelled road built by the BLM, and tourists find its ruins fascinating. By climbing the canyon wall opposite the mine a tourist can see the old mill and a part of the mine workings, much as it was around 1892, sprawled over a bald ridge stripped of timber for mine props and firewood.

huddle around this turn. Today it is a shaded parking spot in the canyon.

Downstream the steep slopes of Maiden Canyon become low broken cliffs of grey limestone. The road winds beside a tiny stream through Douglas-fir and pine until it reaches a spot near the mouth of the canyon.

While the road ends at the canyon's mouth, there are plans for the county to build the road far enough for the visitor to wander about the site of Fort Maginnis. The fort, built at a time when its mission was already obsolete, was abandoned and the buildings sold before the turn of the century. The soldiers have long departed and the fort is levelled. Square, hand-wrought nails litter the ground between low, tumbled brick walls and partially filled excavations. You can easily track the extensive boundaries of the fort with its many buildings.



This comparative picture composite shows the amazing recovery of the valley's timber and the restoration of beauty.

Lawyer Hanged

The ridges and valley of the Judith Mountains are covered with mining claims. Conflicting titles to the claims in the 1890's led to the hanging of a well-known Maiden lawyer. The story is told that he maintained, too loudly, that many gold claims were invalid. Some miners told him to hold his tongue. Then to impress that warning, they hanged him. His tongue stuck out so far that he was lowered, revived—then hanged again, according to the story.

Modern mining claims and test holes are still to be seen on the slopes. The road runs down the gentle slope of Spotted Horse Gulch to its entry into Maiden Canyon. In 1892 buildings clustered in a hot dry

Not all the Judiths have heavy timber. Some soils are too shallow and the underlying rock is void of cracks and crevices for searching roots. One area above Giltedge, Mont., stands gutted by a relatively recent fire.

The almost unbelievable timber recovery in the Judiths is not restricted to the mountains alone. In the neighboring mountain ranges photographs of the 1890's show prominent rock outcrops and peaks that cannot be located today except with great difficulty; the timber hides all but the most massive landmarks. It is this recovery which made it possible for the Bureau to create, out of the reforested slopes, the recreational area of Maiden Canyon.

By Don Stough

BLM Recreation Resource Specialist

In Colorado, a whole mountainside slides like sou-
concrete toward a creek below.

Off the coast of California, an 8-acre island glistens
with ecological purity brought down through the ages.

In Alaska, a huge lava bed sprawls over 135,000
acres—mute evidence of a historic earth upheaval.

These are but a few of the “natural areas”—some-
times called “outdoor laboratories”—found today on
the public domain. They are areas which the Bureau of
Land Management is seeking to identify and preserve.
They are tidbits of Americana which add amazement
and grandeur to our national heritage.

Outdoor Laboratories

**Natural areas offer research
opportunity at low cost**



“Natural Area” Defined

How do we define a “natural area”? A committee representing Federal agencies puts it this way, although their definition may not be final: “An area where natural processes are allowed to predominate and which is preserved for the primary purpose of research and education. Such may include: (1) Typical or unusual faunistic and/or floristic types, associations or other biotic phenomena, (2) characteristic or outstanding geologic or aquatic features and processes.”

Today there are some 130 natural areas design-
and proposed on the 460-million acres of public domain,
and programs to identify, classify and protect them are
underway. Because of the relatively small sizes of the
areas, they will never detract from major land uses.
Ranging from a 40-acre tract of rugged grandeur in
the Fremont Canyon of Wyoming to the Great Kobuk
sand dunes in Alaska, they are low-cost “outdoor labora-
tories” of inestimable value to the casual observer and
to the student seeking deeper meaning from things of
nature.

Natural areas may be divided into distinct cate-
gories—“vegetative,” or plant growing tracts of ecolog-
ical interest, and “geological,” or areas which offer
opportunity for geological study and research. The
average size of 86 proposed natural areas in the ecolog-
ical or vegetative category is less than 2,900 acres—
the total area is less than 250,000 acres. Twenty-seven
natural areas in the geological class average 9,000 acres
each, more than three times the average size of the
ecological sites. Geological research is compatible
with recreation and other uses.

Baker cypress trees, a rare species, grow in a lava
bed in the BLM Redding District, in northern California.

New Areas Proposed

Last year Secretary Udall set aside 16 natural areas containing a little more than 7,000 acres and averaging less than 500 acres each. Twenty-two more areas proposed recently to the Secretary average about 1,500 acres each.

Interest in natural areas and their preservation extends far beyond public agencies, and many of the areas are located on private lands. The Society of American Foresters in 1962 listed 280 national areas of forest types, totalling over 150,000 acres in North America with an average size of less than 600 acres.

The holdings of the Nature Conservancy, the leading private organization in the field, are located almost completely east of the Rocky Mountains and on the Pacific coast. The larger areas are the west coast areas. The Conservancy has owned about 37,000 acres in 146 natural areas. Over 12,000 of these acres in 24 areas have been turned over to universities or States for research or park purposes. This organization has also assisted in the purchase of over 22,000 acres in 33 areas held by other conservation groups or universities. The size of all of these tracts averaged about 330 acres.

Results of a study published in 1964 by the Association for the Advancement of Science listed more than 100 "natural areas." The list, however, included many national parks and monuments, State parks, Forest Service wilderness and wild areas, multiplying the aggregate acreage to around 41,400,000. Not available acreage for listing at that time was about a half million acres proposed for withdrawal and classification by BLM.

Examples Cited

What are some of the most spectacular natural areas on the public domain?

What better example of nature's mysterious workings could exist than the Great Lava Rift of Idaho? Extending for 35 miles from the Craters of the Moon National Monument, this formation is underlain with giant ice caves, despite the fact that the area is hot and dry during the summer.

Another is the massive Slumgullion Mud Flow in Colorado, a slow landslide moving down the gently sloping terrain of Slumgullion Creek.

In northeastern California, a pristine stand of rare Baker cypress remains intact after centuries of geological mishaps, including several lava extrusions that

covered the entire area. This forest community, covering 9,000 acres, is the largest of its kind known in the world. Here, the rough broken surface of the lava bed forms a unique ecological affinity with the vegetative cover.

One natural area in California known as the "Alabama Hills" is so scenic that it has become known as "Movie Flats" because of the number of western movies and television shows photographed in the vicinity.

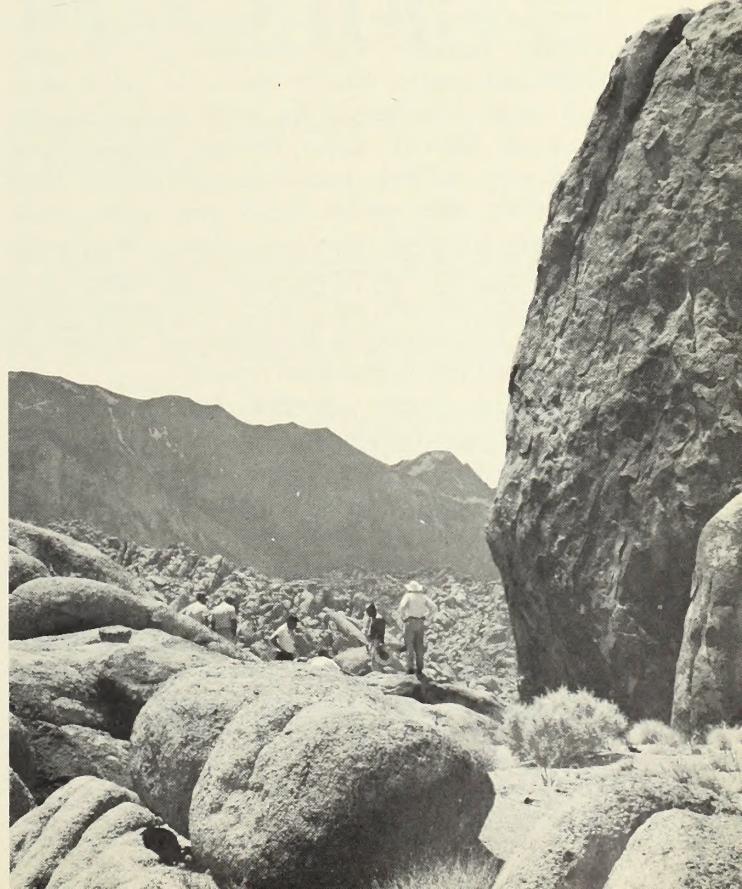
Thirty miles north of the Arctic Circle, in Alaska, is a 30,000-acre rolling sand dune completely devoid of vegetation. Another tract is the Nogahabara Sand Dunes, 16,000 acres and located 40 miles south of the Arctic Circle.

Because of the dramatic differences in elevation, rainfall, and latitude of the public lands, seven of the nine floristic regions of North America are represented. The lands vary from Death Valley, below sea level, to mountain tracts more than 14,000 feet high in Colorado.

Annual rainfall varies from less than 6 inches in Nevada to more than 100 inches in western Oregon, Washington, and Alaska. Temperatures range from as high as 120 degrees in the southwest desert regions to 60° below zero in Alaska regions.

The wide variation of conditions offers unusual opportunities for botanists, zoologists, and ecologists to study the striking effects of microclimatic differences.

Alabama Hills, in California, is a famous locale for the filming of western movies.





A closeup view of the famous Slumgullion Earthflow in Colorado, where a whole mountainside is inching downward, wrinkling the earth's surface.

Too, some of the natural areas pose intriguing questions. Why does one grove of white fir grow more than 30 miles from any other trees? Why are several thousand acres of ponderosa pine completely isolated from any other pines of their species in an area of insufficient rainfall? The researcher will find many challenging outdoor laboratories on the public lands.

A rough grouping of the areas so far indicates numerous fields of study: Geology, unusual forest types, grass and forb types, hydrology, extreme range of species, relict species, shrub types, rare species, vegetative transition zones and zoology. Many areas, of course, lend themselves to multiple research possibilities. Although sand dunes are classified under geology, for example, the vegetative cover on many of them would lead to ecological research.

Areas of primary geological interest within the public domain include volcanic cones, pronounced geological fault lines, anticlines, and striking peaks. Each is valuable for the study of erosion, earthquakes and soil changes.

In Idaho, 160 acres of high desert native grassland is practically untouched by domestic stock. The butte location is completely surrounded by broken lava.

An island in Oregon has been withdrawn because of its stand of old-growth Oregon myrtle.

Two hundred acres of the relatively rare Brewer spruce have been spotted in the southwestern part of Oregon.

Englemann spruce and Colorado blue spruce—high-country mixture—are found over a site of some 400 acres in Idaho.

In California are 1,000 acres of rare Piute cypress, while more than 500 miles away 1,500 acres of Baker cypress trees are growing on lava material, a most unusual geological-ecological phenomenon.

Utah also has an isolated mesa of 1,000 acres, accessible only by one rough trail, with a fine stand of Epredra and *Hilaria Jamesii*. Another Utah site contains more than 1,300 acres of *Atriplex canescens* and *Stipa comata* which had not been grazed for many years until 1963-64 and is changed very little.

Wyoming has a section of Northern Desert Shrub—a sagebrush group of big sagebrush, rabbitbrush, thickspike and western wheatgrass, Indian ricegrass, and associated forbs. Thirteen other areas of this type are listed in Colorado, California, Nevada, and Utah.

Eighty acres of a unique, almost pure stand of Jeffrey pine is located in western Oregon.

An unusual area in Colorado is valuable for its population of rare lizards and snakes. The rare Leopard lizard (*Crotaphytus Wislizeni*) is found here.

OUR PUBLIC LANDS

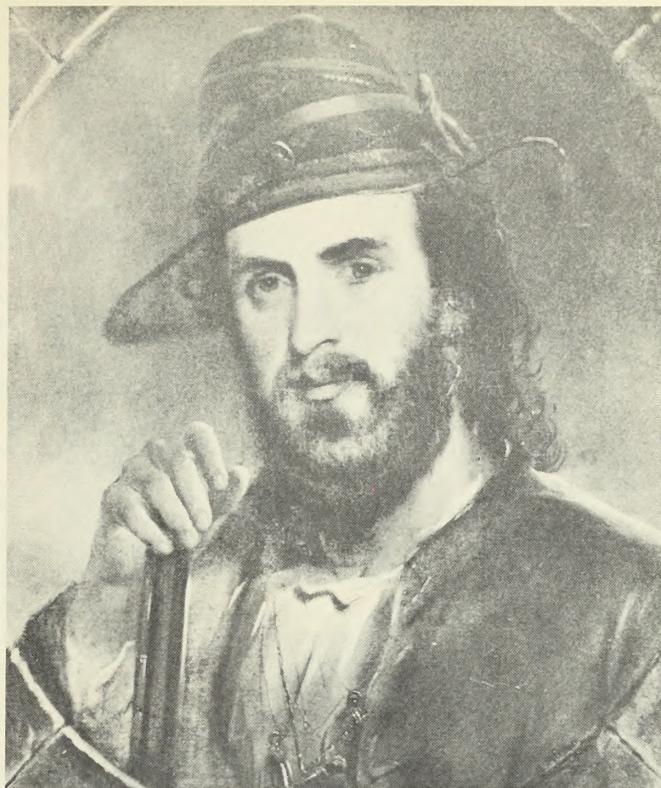


**THERE'S STILL ROOM TO ROAM—
460 MILLION ACRES OF PUBLIC
DOMAIN LANDS.**



**ABOUT 50 MILLION ACRES
OF PUBLIC LANDS ARE
"FRAIL"—BADLY ERODED**

Ralph W. Collings
Lands & Minerals Specialist
Bakersfield, California



Joseph Reddeford Walker

The WALKER PASS STORY

An unsung hero of California's pioneer days is honored by a National Historic Landmark

Joseph Reddeford Walker was not the first man to find Walker Pass, the famous shortcut used by California immigrants to Sutter's Fort. The farthest north of any snow-free pass in the Sierras, this trail was well known to the nomadic Indians in their search for meat and piñon nuts. But it was Walker who first used the pass in bringing settlers to California.

Through the efforts of local historical societies (such as E. Clampus Vitus, which specializes in dedicating sites relating to gold rush days), the pass has become a national historic landmark, one of many dedicated by the National Park Service on BLM lands.

In 1843 Walker first used the pass named in his honor. He was guiding the Chiles party from Missouri to Sutter's Fort by the northern or Humboldt

Sink route. He traveled west from the Great Salt Lake to Big Pine, Calif., then skirted the east edge of the Sierras on what is now known as the Walker Trail. They then reached Walker Pass by traveling south on the same trail.

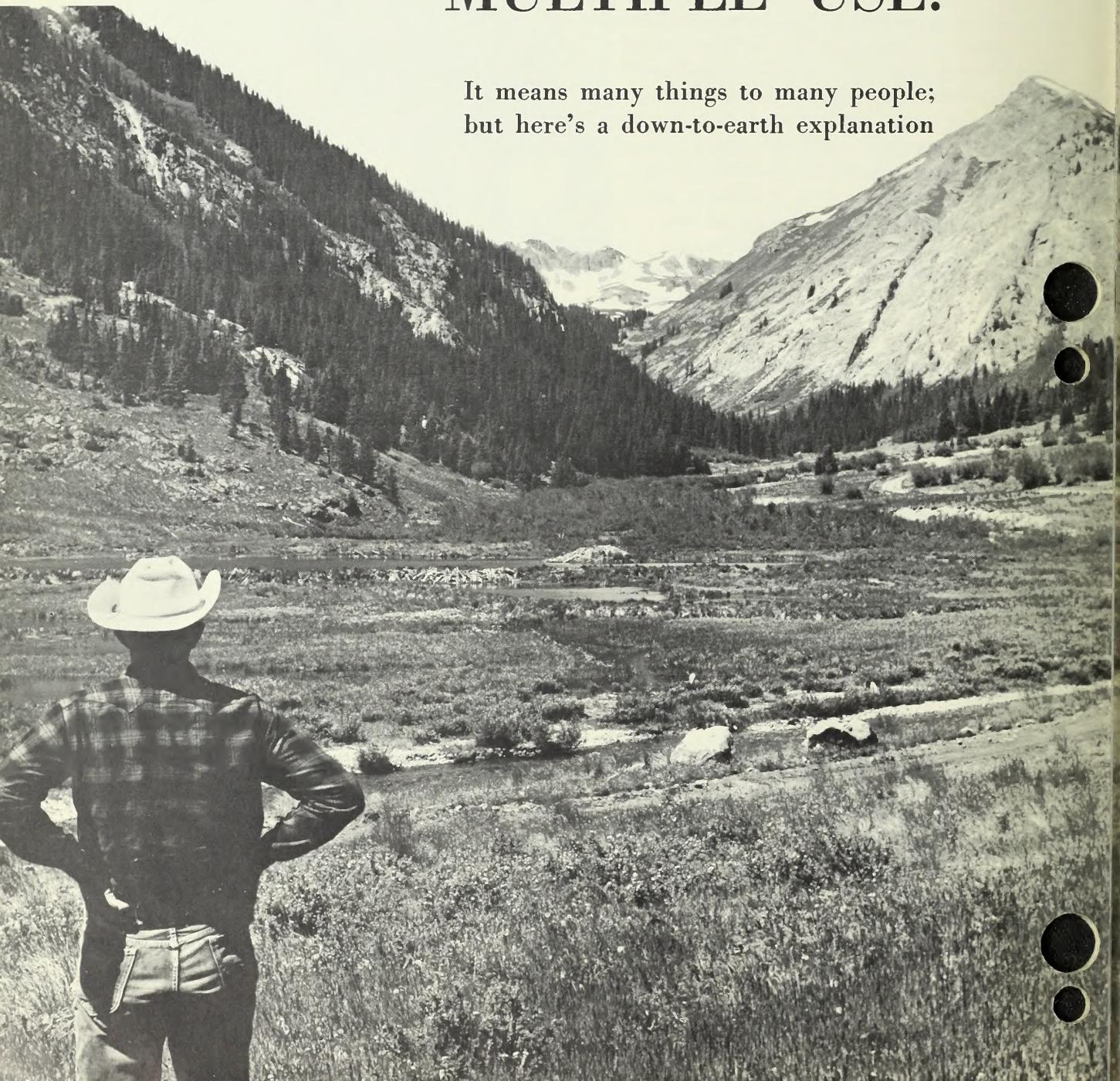
During 1844-45, while guiding John Charles Fremont to California, Walker brought a portion of the Fremont expedition across the pass and made camp near the present site of Lake Isabella Dam. Later, during the Mother Lode gold rush, several "Forty-niners" crossed over the pass and traveled to the Mariposa mines by the same route as Walker used on his journey to Sutter's Fort. The pass soon served as an important link between the early mining towns of Havilah and Independence in Owens Valley.

By Jim Lee

*Assistant Information Officer
Bureau of Land Management*

What do you mean, **MULTIPLE USE?**

It means many things to many people;
but here's a down-to-earth explanation



Charlie set the handbrake on his pickup and turned off the ignition switch. Lighting a stubby pipe, he puffed a blue cloud of smoke and said, "Let's get out here for a minute. I want to show you some multiple use."

"Okay," I said dubiously. "I've heard the term used a lot of ways, but never saw a cow or a deer eating it."

We stood at the edge of the narrow road, and drew deep breaths of the breeze swelling up from the valley below. Through the clear air we could see distant mountain peaks and smoke rising from the factory town two valleys away.

Charlie had devoted his whole life to conservation—wise use of natural resources—and he never passes up a chance to tell someone what it means to take care of the earth and spread its benefits. He knew too well that the term "multiple use," while used widely among conservationists, was not understood by the rank and file, like me.

"I sympathize," he grinned. "Multiple use is a catch-word like 'conservation', that means many things to many people."

Start With Water

Charlie pointed with his pipestem. "Start with the creek down there. Last winter, that water fell as snow on the higher ridges. The water soaked in; now seeping out from springs to keep the creek flowing the whole summer. That water's going to do a lot of good before it gets to the ocean."

"Okay, Charlie," I agreed. "I know about fishing in the creek, and I know people over in town depend on this water for drinking. Some ranchers water their stock, and a couple of them irrigate garden patches. So what?"

"That's just part of it," he replied. "Keep going. Down where the creek joins the big river, there's a plant using water to make steam for electric power. On the main stream, there's a hydroelectric reservoir generating more power. There are factories using water, and farms irrigating crops."

"I still say, 'so what?' All you've said is that people use this water. What does this have to do with conservation and multiple use?"

He puffed another cloud of smoke and watched it rise in the air. "But . . . what if one year the streams went dry? Some neighbors would go thirsty. Others



Properly managed timberlands yield much more than timber for products. Additional uses may include recreation, wildlife habitat, water and soil conservation.

would probably go hungry. Still others would be out of work."

"Okay, Charlie, but there's not much chance of that. It always snows up here. The snow always soaks in, and the creek always has water in it."

"Nope, not always. Guess you weren't around the year of the big burn. Fire swept up the valley, cleaned the grass and trees right off—these hillsides were just bare dirt. That winter, it snowed as usual. But when the snow melted, most of it went all at once, and took a lot of mud with it."

"Over in town, it took the old bridge out. Carried pieces of it 20 miles. Half the lower valley was flooded in the spring; ruined a lot of early crops. What didn't get flooded, dried out later in the summer."

"That's too bad, but what does this have to do with conservation—or multiple use?"

Protecting the Grass

"Plenty," Charlie said. "See that herd of sheep up on the slope? Handled the wrong way, they could do as much damage to the grass as that fire did. But using good sense, the sheepherder can let his sheep take a share of that grass and still leave enough to hold the water next spring. That's conservation."

"Well, that's just good sense."

"I won't argue that point," Charlie said. "The old textbook definition of conservation is 'wise use of our natural resources.' Call it 'good sense' if you want. But any way you look at it, the sheep are getting forage and the creek is still getting water—that's multiple use."

"To get multiple use, you must make the uses that give you the most from what you have."

"Is that all? It seems too simple."

Charlie grinned. "Yep, it is too simple. If it were just the sheepherder and the grass and water, life would be pretty uncomplicated. But of course, we're just looking at a real simple example.

"You could take some other examples that aren't so simple. Like, how do you get multiple uses when real estate developers and recreation people want the same piece of land in Florida? Or when strip miners want to mine the coal under a State forest in Maryland? Or engineers want to dam a wild river in Arkansas?"

"I guess, Charlie, somebody has to weigh out the pluses and minuses, and figure which choice will do the most people the most good. And either way you go, someone doesn't get everything he wants."

Wise Use of Resources

Charlie nodded. "Now you're getting to the point. We're back to that textbook definition—wise use of our natural resources. That fisherman down in the creek, like the sheepherder up on the ridge, is using natural resources. They both have a choice. They can use 'em wisely, or poorly, along with the cowboy, the logger, the miner and the real estate developer.

"And I reckon there has to be a choice, some alternatives. Otherwise, you're just talking about nature study, not conservation."

"Now wait a minute, Charlie! You make a big difference between natural resources and conservation?"

"Sure," he replied. "Knowing the difference between a pine and a willow is one thing . . . call it

natural history, or call it nature study. But using what you know, making the wiser choice, is conservation."

"I guess, then, to get multiple use you have to make the choices that give you the most from what you have—whether it's desert in Arizona or forest in Oregon or tundra in Alaska. But what about using lands for parks, or wildlife refuges, or factories? Would you call these single uses?"

Charlie agreed. "Yes, and there's nothing wrong with single uses—if using the land for one purpose alone does more good than trying to use it for several. You can have a lot of good family recreation in a commercial forest; the two go pretty well together. But you wouldn't try to grow commercial timber in Yellowstone Park; the park's too valuable for single use."

"But just because you're managing land for a single use doesn't mean you can ignore other resources, does it? You still try to take care of what you have."

"Yes, you're just about on target now," Charlie said. "Conservation is the way man uses the world around him, if he's smart, to get the most out of it—with one eye on tomorrow. Take another look out there, now, and tell me what you see . . ."

My eye followed the stream up the valley, from the timber along the lower slopes, past the fisherman fishing in the riffles. There was the grass, holding soil and holding back melting snow. There was sheep, high on the ridge, fattening on the lush grass. On the plateau beyond the mountains, crops ripening in the sun. I grinned at Charlie as we turned to the truck, "Yep, I guess you did show me some multiple use."



"The sheepherder can let his sheep take a share of the grass and still leave enough to hold the water . . . that's conservation."

**They're finding real purpose
in life through accomplishments
at Job Corps Center**

Young Men of CASTLE VALLEY

By Lorin J. Welker, *Manager,*
BLM Price District
and Edward R. Evatz, *Director,*
Castle Valley Job Corps Center

From making roadside signs and picnic tables to building trails and roads—Job Corpsmen are getting another chance to find their places in society.

The Bureau of Land Management is helping them—at conservation centers on public lands throughout the West. Typical is the Castle Valley Job Corps Center near Price, Utah, second JC center in the Nation under BLM's administration.

Under the able direction of Ed Evatz and his staff, Castle Valley JCC has already established an enviable record for facilities, low dropout rate and accomplishments.

"We are definitely making headway," said Mr. Evatz, "toward the basic objective of Job Corps: to zero a young man in on a positive purpose in life and help him to pursue that end."

The center is located about 3½ miles south of Price, just off Utah Highway 10. The 100 corpsmen work on about 3 million acres of public domain land administered by the BLM Price District office.

Expansion Provided

Although the Castle Valley JCC was constructed for 100 corpsmen, all plans for utilities were designed for expansion to 200 men. And just 6 months after the center's activation, the Office of Economic Opportunity requested the Department of the Interior to expand Castle Valley. County, city and civic leaders—obviously proud of the fine record of the corpsmen—favored the enlargement.

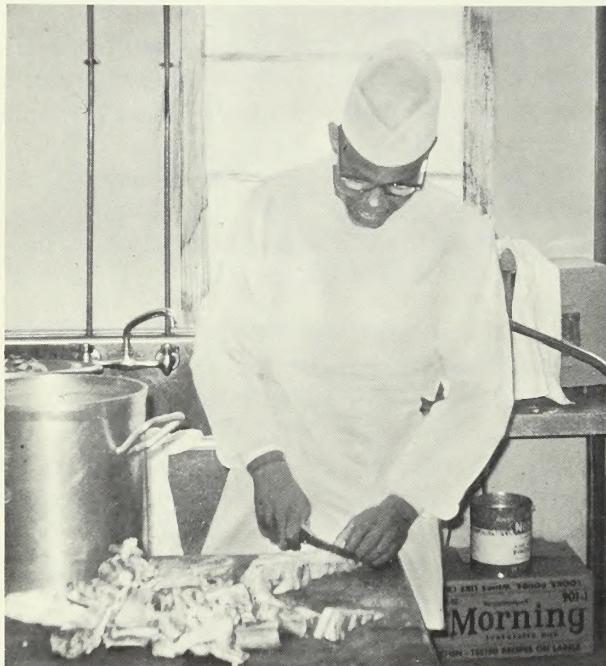
To provide vocational, educational, and recreational facilities, as well as additional housing, \$300,000 was



Steve Senn of Ogden, Utah, drives a tractor as he works on the Carbon County fairgrounds.

allocated for the expansion. It is anticipated that the 100 additional corpsmen will be assigned to Castle Valley before the center's first anniversary.

On Cedar Mountain to the southeast the young men from Castle Valley are developing a recreation site that includes a parking lot, 2 overlooks, 10 picnic sites and a scenic trail. In the Pinnacle Resource Conservation Area 13 miles west of Price, the corpsmen are working on a 1,100-acre chaining and seeding project. They are constructing redwood signs in the Price



J. C. Brooks of Columbus, Ga., wanted to be a cook. At Castle Valley he gets practical kitchen experience.

District sign shop. They have installed cattle guards, built fences and constructed picnic tables. And they have been busy landscaping and improving their own center.

Good Relationships

Meanwhile, participation of the Castle Valley corpsmen in community projects has cemented good relationships between the center and Carbon County residents. Castle Valley's major community project has been to assist in construction of a Carbon County fairgrounds. Completion of this project will bring about realization of a dream held by residents since 1959.

The city of Price lets corpsmen use city recreational facilities free of charge. This has helped substantially in carrying out recreational and physical education leisure time programs, Mr. Evatz pointed out.

The first contingent of 35 enrollees arrived at Castle Valley Center last July 29; a second group of 37 corpsmen came August 9. Just 5 days later BLM Director Charles H. Stoddard was the principal speaker at the center's dedication.

Castle Valley JCC thus became the BLM's first JC center set up from scratch. Tillamook in Oregon was the Bureau's first center, but already existing physical facilities there were converted, whereas Castle Valley buildings were erected specifically for the center. It



R. Harrold of Houston, Tex., and Jose Romos of Bridgeport, Conn., use the multilith to reproduce copies of "Castle Valley Voice," the center's newspaper.

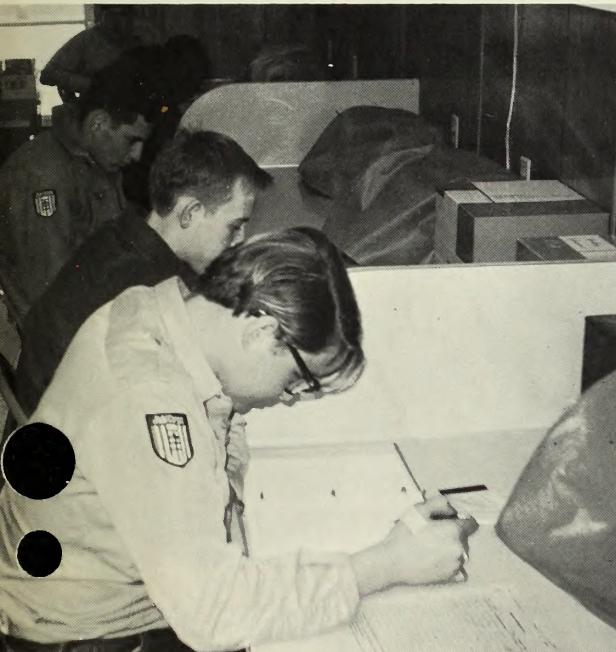
has been a hectic 15 months bringing Utah's first Job Corps center to fruition.

Even before the Economic Opportunity Act became law, William Leavell (then Price District manager) recommended in May 1964 that a Job Corps center be located in the vicinity of Price. The act (Public Law 88-452) was signed August 20, 1964.

In the 3-month period many preparatory arrangements were made. That fall specific information as to the center's location, proposed projects, and community reaction was provided the Office of Economic Opportunity. On December 2 the Price District was notified that OEO expected to announce the center's location December 15. In a scurry of activity, public support was solidified and detailed site plans were drawn. Before the end of the month, Utah's G

, after consultation with local officials, announced approval of the center.

Rights of way, utility agreements, surveys, and many details had to be taken care of in a hurry. Early in March a contractor of mobile homes began erecting on the site three dormitories, dispensary, office, combined education and recreation building, dining hall and three residences. There were water pipes to lay, sewer system to install, powerlines to put in and many other arrangements to complete.



Corpsmen work and study at their own speed in the education program.

Men Learn Skills

By the middle of July OEO representatives said Castle Valley was in the best state of readiness of any Job Corps center in the Nation inspected up to that time. Here, under trained supervision, young men are learning vocational and job skills as they catch up on instructions in basic education. As Mr. Evatz puts it, "More significant than the conservation projects we are completing in Job Corps is the development of the human resources."

And from their "home" on 120 acres of public domain near Price, these young men from Castle Valley are providing the Nation with benefits from range improvements, recreation developments, erosion control, and other projects.

John Weller, manager of the BLM Price District,

claims "the work being done by the Castle Valley corpsmen is as good as we have been obtaining by contract. The corpsmen built 7 miles of fence in the district in some real tough country."

There have been—and still are—many 12- and 14-hour days for BLM employees on the Castle Valley Center and Price District staffs. But there is pride and satisfaction in the work being accomplished.

Recently Carbon County Sheriff Albert Passic told the Carbon County commissioners and the Price and



A JCC surveying team at work on new fairgrounds for Carbon County. This was the center's first-year community project.

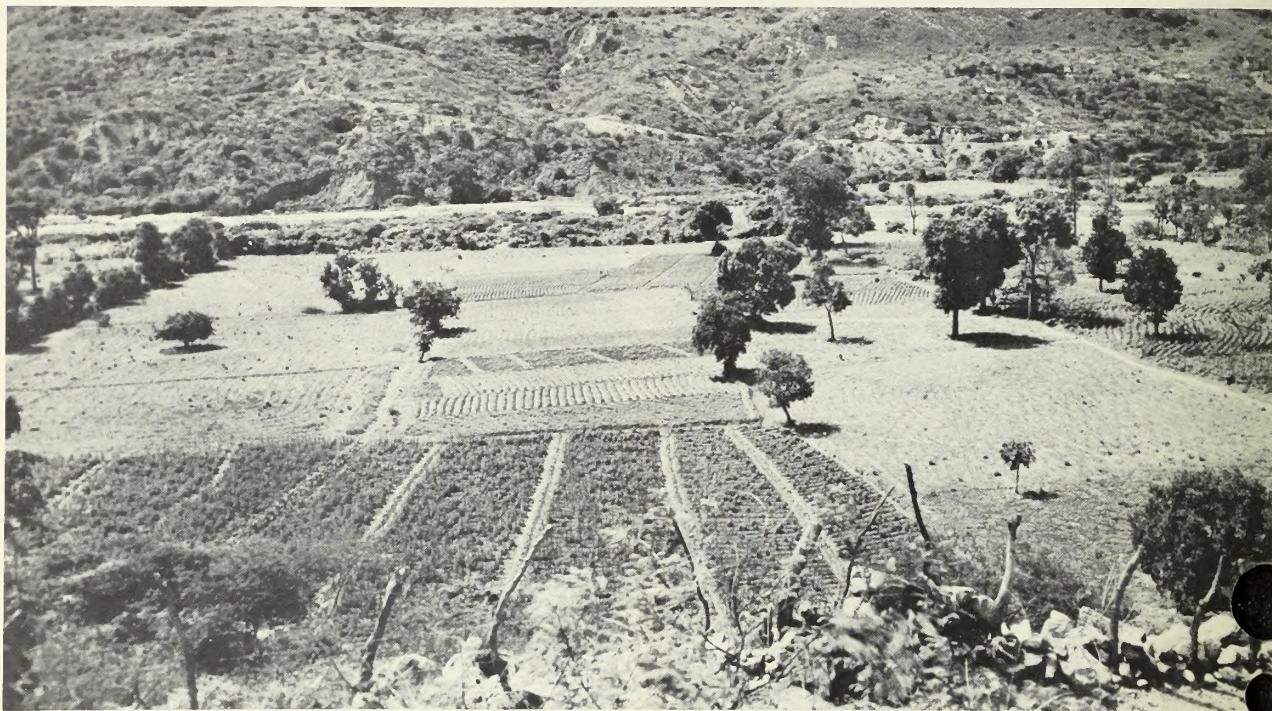
Helper city councils that if all the local youth behaved as well in town as the Castle Valley corpsmen, "my work would be much easier."

It is gratifying to hear Jim Knight, 18, of Philadelphia, Pa., say that he believes Job Corps "is the best thing that ever happened to me or could happen to anyone who drops out of school." Jose Ramos, 20, of Bridgeport, Conn., an elementary school dropout often jobless before he joined Job Corps, is doing administrative duties in the Castle Valley Center office and attends adult education night classes in Price, determined to get his high school diploma.

Mr. Weller said, "I am pleased to have an active part in the program of helping to develop boys into men. The favorable community reaction we received about the Castle Valley Center makes me proud to have had a part in its development."

Venezuela Inventories Its Land

Surveying job will speed progress in agriculture and other fields



The layout of farm areas for irrigation and settlement makes necessary an accelerated surveying program. (Standard Oil of New Jersey photo.)

By Franklin Van Zandt

Venezuela, in the northern part of South America, has about 1,000 miles of coastline on the Caribbean. Its area is 352,150 square miles, larger than Texas and smaller than Alaska. With a population of 8,255,000, it is not overpopulated at 23 persons per square mile.

Nature has favored Venezuela with great mineral wealth, especially in petroleum and iron. Revenue derived by the government from these resources has permitted construction of excellent highways in parts of the nation where they are most needed.

As population calls for an increase in food supply, important developments must come in agriculture. Both the urban growth and the need for more intensive land use call for accurate information as to size, location, ownership, and valuation of land parcels.

The rapid development of iron and steel manufacture and the export of products and raw materials from Ciudad Bolivar and Puerto Ordaz in the lower Orinoco Valley should bring an influx of population, requiring

a large quantity of agricultural products. These may be expected to come from the great expanse of land in the valley, now very little used.

Venezuelan economy is in good condition. To provide a better balance, it is desirable to extend the prosperity evident in industry and commerce to the agricultural sector.

Status of Cadastral Work

The Agrarian Reform Law requires registry of all real property previous to transfer of title or granting of loans for which the property is security. One copy of the documents filled out by the owner stays in the local office and the duplicate is filed in Caracas. Some owners are registering property even though no immediate transaction is contemplated. With the rapid growth of the cities, the necessity for title records and surveys is quite apparent. Rural development, with the parcelization of large holdings, the layout of farms in areas to

rigated, and the settlement of new lands, requires a large increase in the rate of survey of lands affected. Such surveys have been neglected in the past and the need to catch up is urgent. "Our Public Lands" in Spanish is "Nuestros Baldíos." For rural development purposes, the government (and the people) must know just where the baldíos are.

Development of rural areas is much desired by leaders in Venezuelan political and economic life. Attempts are made to influence the location of factories away from Caracas, which now has a population of a million and a half. Improved living conditions in the small towns are a goal of the government, which aims to see that every municipality with more than 5,000 population has public water and sewerage systems.

Not only as a matter of justice, but also as a means of increasing the food supply for the nation, is it urgent to provide the campesino with land of his own and to make country living more attractive. The new

settler must have a title to his land to protect him and to permit him to borrow the money he needs for improvements, machinery, fertilizer, etc. To get a title, his property must be surveyed. This gives great impetus to cadastral surveying.

In those parts of the country where it may be possible to make surveys before the settlers arrive, it would be highly desirable to survey and monument tracts of land, laid out on a rectangular system, as was done in our western States. Recommendations to this effect were made by the writer. Of course any system designed for Venezuela would be measured in metric units.

The interest of the U.S. AID mission in rural development indicates its desire to support the Venezuelan progress in every way possible. The Inter-American Geodetic Survey and the U.S. Army Map Service provide assistance with aerial photography, logistical support, and technical advice.



NEWS NOTE ON WORK OF THE PUBLIC LAND LAW REVIEW COMMISSION

Nearly one-third the land area of the United States will be embraced by studies of the Public Land Law Review Commission during the next 3 years, according to a preliminary summary released by Rep. Wayne N. Aspinall, Commission chairman. The study will cover more than 96 percent of all Federal lands in the 50 States, or roughly 740 million acres.

The Commission met jointly in March with members of the Advisory Council and Governors' representatives in Washington, D.C., with some 250 persons attending. All members of the Advisory Council were present, and 37 Governors were represented. The meeting was called to orient all concerned on the purpose and scope of the review.

First day's session was devoted to presentations by Federal Government liaison officers, who explained the background, policies, and programs of their department as they relate to the public lands. On the second day, non-Federal members of the Advisory Council and Governors' Representatives set forth their views on

Commission objectives and specific areas to be studied in depth.

The chairman keynoted the meeting with emphasis on the difficulty and complexity of the job ahead, stressing that the Commission intended to rely heavily on the advice of council members on matters pertaining to their specialized fields.

"It is our hope and expectation," Mr. Aspinall said, "that the Advisory Council and the Governors' Representatives will make significant contributions to our work. . . . You will bring to us the views of the citizenry, but and possibly even more important, we look to you to bring to the folks back home and in the various citizen groups word on what we are doing, why we are doing it, and why it is important to them."

Milton A. Pearl, staff director, said that while no final decisions have been made on study programs, several possibilities were under review and consideration by the Commission. Among these are a number of study plans concerning the question of demand on public land resources, in keeping with requirements of Public Law 88-606, which provided for establishment of the review.

An estimated 400 study topic suggestions were recommended by Commission and Advisory Council members and Governors' Representatives at the 2-day session. They encompass three broad areas: (1) Commodities; (2) intergovernmental transfers and transactions; and (3) governmental control and administration.

PUBLIC SALE BULLETIN BOARD

This is a compilation of the most up-to-date information possible on transactions and future sales of public lands by land offices of the Bureau of Land Management. Any details on land descriptions, prices, and other information pertinent to sales must be obtained from the individual land offices. When possible, all sales are scheduled far enough in advance so ample notice can be given in Our Public Lands. Any sale listed can be cancelled on short notice, due to many administrative and technical reasons, so interested purchasers should always check with the local land office.

ARIZONA

Public Sale Tracts

26.5 acres, Cochise County, 3½ miles south of Sierra Vista. Flat to gently rolling. Poor access. No utilities. Appraised at \$7,550.

11.58 acres, Cochise County, 3½ miles south of Sierra Vista. Flat to gently rolling. Poor access. Appraised at \$3,350.

40 acres, Graham County, 2 miles north of Safford. Gently sloping to rough foothills. Access. No utilities. Appraised at \$2,292.

33.71 acres, Graham County, 2 miles north of Safford. Gently sloping to rough foothills. Access. No utilities. Appraised at \$1,550.

40 acres, Mohave County, 2 miles north of Littlefield. Half steep and rough, rest slightly sloping. Near U.S. Highway 91. Near power utilities. Appraised at about \$50 per acre.

CALIFORNIA—RIVERSIDE OFFICE

Public Sale Tracts

40 acres, San Diego County. Appraised at \$6,400.

8.58 acres, San Diego County. Appraised at \$14,400.

176.85 acres, San Bernardino County. Appraised at \$28,300.

171.29 acres, San Bernardino County. Appraised at \$27,400.

Small Tracts

188 scattered small tracts, ranging in size from 1 acre to 5 acres, appraised at from \$420 to \$9,000. Mostly desert land. Some access, some near utilities.

CALIFORNIA—SACRAMENTO OFFICE

Public Sale Tract

11.32 acres, isolated, 7 miles east of Middletown, Lake County. Too steep for crops. Minor winter grazing. No permanent water. Completely surrounded by single ranching unit. Appraised at \$500.

COLORADO

Small Tracts

2 lots, South Fork area, junction Highway 149 and U.S. Highway 160, 16 miles west of Del Norte. Utilities, post office, stores.

6 lots, 3 miles northwest of Boulder, near Crisman. Rough, rocky. Lodgepole and ponderosa pines.

IDAHO

Public Sale Tracts

40 acres, 3 miles south of Dietrich, Lincoln County. Access; farmable. Appraised at \$1,100.

320 acres, 7 miles northeast of Emmett, near Black Canyon Dam, Gem County. Suitable for dry grazing. Appraised at \$6,400.

198.45 acres, 7 miles northwest of Aberdeen, Bingham County. Shallow silt loam, undulating to gentle rolling. Grazing. Appraised at \$1,980.

320 acres, 5 miles northwest of Aberdeen. Access by county road. Grazing. Appraised at \$3,200.

200 acres, 7 miles west of Aberdeen. Good access. Sagebrush-grass; about 44 acres potential for farming. Appraised at \$2,000.

3 tracts, 40 acres each, south and east of Ammon, near Idaho Falls. Bunchgrass plant cover. Some dry farming. Appraised at \$480 to \$600.

120 acres, 9 miles east of Salmon, Lemhi County. Steep, mountainous; sagebrush and bunchgrass for grazing; no direct access. Appraised at \$1,200.

40 acres, 7 miles west of Leadore, Lemhi County. 20 acres in subirrigated pasture; soil deep, productive. Water available. Appraised at \$3,240.

40 acres, 4 miles west of Nampa, Canyon County. Silt loam, lava outcrops. Cheatgrass cover. 27 acres have potential for irrigated farming. Access. Appraised at \$2,000.

240 acres, 2 miles north of Melba, Canyon County. Near paved road. Modestly steep, rocky hillside. Sagebrush-cheatgrass. Irrigated farming possible on 40 acres. Appraised at \$8,800.

160 acres, 1 mile east of Melba on south side of Powers Butte, Canyon County. Near gravelled road. Soil shallow and rocky. Sagebrush-cheatgrass. About 100 acres have potential for irrigated farming. Appraised at \$6,600.

200 acres, on rim above Snake River, northwest of Melba, Canyon County. Access. Soil shallow and rocky. 60 acres have limited potential for irrigated farming; 95 acres for grazing; 45 acres wasteland. Appraised at \$6,000.

305.88 acres, 1½ miles northeast of Walter's Ferry, Canyon County. State highway access. About 165 acres good farming potential, 100 acres grazing, 41 acres wasteland. Appraised at \$22,000.

80 acres, 5 miles north of Moreland. Access. Grazing. Appraised at \$1,380.

0 acres, near Moreland. Rocky sagebrush. Grazing. Appraised at \$440.

364.29 acres, 7 miles northwest of Moreland. Access. Mostly grazing. Appraised at \$4,740.

60 acres, near Moreland. Seven acres could be farmed in conjunction with private land adjoining. No direct public access. Appraised at \$1,040.

320 acres, near Moreland, along U.S. Highway 26. Good access. Fair suitability for farming. Appraised at \$5,440.

160 acres, near Moreland. Severely undulating. Public access. Grazing. Appraised at \$1,760.

40 acres, 2 miles north of Tabor. Near county road. Grazing. Appraised at \$440.

40 acres, mile northwest of Tabor. Road and railroad access. Grazing. Appraised at \$330.

165.47 acres, 5 miles southeast of Tabor. Grazing. Appraised at \$1,820.

352.08 acres, 2 miles north of Walter's Ferry, Canyon County. State highway access. Irrigated farming, grazing potential. Appraised at \$20,800.

MONTANA

Public Sale Tracts

120 acres, Yellowstone County. No improvements. Usable for grazing. Soils thin and sandy. Appraised at \$1,260.

40 acres, McCone County, 12 miles east of Vida. Rolling, some rough breaks. Accessible by prairie trail. No water, no improvements. Appraised at \$800.

40 acres, Richland County, near Vida. Rolling topography with some rough breaks. Accessible by prairie trail. No improvements, no water. Appraised at \$560.

NEVADA

Public Sale Tracts

44 acres, 26 miles east of Wells. Flat to rolling. Highway access. Power and telephone lines.

760 acres, 70 miles south of Hawthorne in Queen Valley, 2 miles from California border. Highway access. No utilities.

5 acres, 1 mile south of Las Vegas. Zoned for commercial use. About 2 acres usable. City utilities.

NEW MEXICO

Public Sale Tracts

7 tracts, Santa Fe County, 19.46 acres to 680 acres, within 15 miles of Santa Fe. Rolling to rough and broken grazing land with scattered piñon and juniper. No utilities within a mile. Appraised at \$100 to \$11,000 per tract.

21 tracts, within 5 miles north and 8 miles south of U.S. Highway 70-380, between Tinnie and Glencoe, in southeastern Lincoln County. Range from 40 acres to 528.4 acres. Appraised at \$9 to \$12 per acre.

30 tracts, half acre to 207 acres, scattered through Ellis and Roger Mills Counties. Grazing lands, mostly sandy river flood plains, some rolling to steeply rolling upland sites. Appraised at \$5 to \$25 per acre.

9 tracts, 40 to 1280 acres, centering 9 miles south and 2 miles west of Tinnie, Lincoln County. Rolling to rough terrain grazing lands. REA electricity on one tract. Appraised at \$10 to \$12 per acre.

OREGON

Public Sale Tracts

29.40 acres to 40 acres, 20 miles northeast of Enterprise, Wallowa County. Grazing, timber production. Stock-

water on 3 tracts. No electricity. Appraised at \$530 to \$2,320. July 26 sale date.

14 scattered tracts, from 40 acres. Appraised at \$2,000 to 640 acres appraised at \$26,550. Northern portion of Gilliam and Morrow Counties, about 13 miles from Hermiston. Electricity. Desert character.

3 tracts, 7 to 9 miles south of Hermiston, Umatilla County. One tract of 320 acres, appraised at \$13,700; two of 640 acres each, appraised at \$16,700 and \$27,000, respectively. Electricity available. Accessible. Some suitable for grazing, dry farming, irrigated farming.

UTAH

Public Sale Tracts

2 tracts, 40 acres and 120 acres, 2 miles northwest of Orangeville, Emery County. No improvements. Canal intersects tracts. Grazing. Appraised at \$4.50 per acre.

40 acres, 3 miles northwest of Clear Creek, Carbon County. Some water, no improvements. Grazing potential forestry development. Appraised at \$480.

WYOMING

Public Sale Tracts

40 acres, isolated, 12 miles northeast of Meeteetse, Park County. Grazing. Appraised at \$640.

80 acres, 9 miles southwest of Big Piney, Sublette County. Grazing potential. Improved dirt road. Appraised at \$2,150.

Two 40-acre isolated tracts, 6½ miles southeast of Boulder. Access road. Grazing potential. Appraised at \$1,200 and \$1,250, respectively.

40 acres, isolated tract; 6 miles southeast of Boulder. Grazing potential. Road access. Appraised at \$625.

WASHINGTON

Public Sale Tract

160 acres, 10 miles south of Asotin, Wash. Unimproved. No water, no electricity. Appraised at \$1,920.

Bureau of Land Management

Land Offices

ALASKA:

555 Cordova St.
Anchorage, Alaska 99501
516 Second Ave.
Fairbanks, Alaska 99701

ARIZONA:

Federal Bldg., Room 204
Phoenix, Ariz. 85025

CALIFORNIA:

Federal Bldg., Room 4017
Sacramento, Calif. 95814
1414 8th St.
Riverside, Calif. 92502

COLORADO:

14027 Federal Bldg.
Denver, Colo. 80202

IDAHO:

323 Federal Bldg.
Boise, Idaho 83701

MONTANA:

(N. Dak., S. Dak.):
Federal Bldg.
316 N. 26th St.
Billings, Mont. 59101

NEVADA:

Federal Bldg., 300 Booth St.
Reno, Nev. 89505

NEW MEXICO (Okla.):
Federal Bldg.
Santa Fe, N. Mex. 87501

OREGON:

710 NE. Holladay
Portland, Oreg. 97232

COLORADO:

Third Floor, Federal Bldg.
125 South State St.
P.O. Box 11505
Salt Lake City, Utah 84110

WASHINGTON:

670 Bon Marche Bldg.
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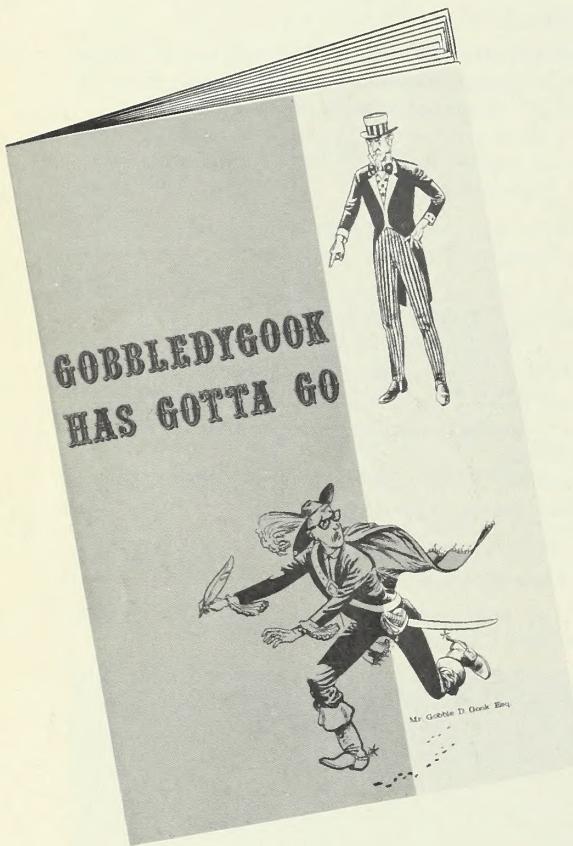
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